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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

GPO
OCT 4 1941

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REPORT FOR WEEK ENDING OCTOBER 4, 1941

HAVRE:

Weather during the week was variable, some days were clear and warm, whereas others were cloudy, cool, and showery. The mean temperature was 45°, which is about 6° below the normal for the week.

The winter wheat nursery was seeded in the experimental field. Some 37 different varieties and selections are being studied with the hope that some of them may prove superior to our present varieties. Seedhouse work consisted of taking test weights. Samples of Yogo, Karmont, and Montana No. 36 winter wheat were sent in for milling and baking tests. Tests made to date show very little, if any, difference in the quality of these three varieties. Seeding of registered Yogo on the farm fields was completed. Harvesting of a seed crop of Cumberland clover is in progress.

Crested wheatgrass was seeded on native sod. This experiment has been in progress since 1936, and results indicate that where the native grass is weakened by drought or overgrazing it is possible to get stands of crested wheatgrass. A year ago this fall 110 acres of poor sod cover was selected on the station pastures and seeded with this grass. Good stands were established.

Maximum temperatures, 64°; minimum, 28°; precipitation, 0.17 inch.

JUDITH BASIN:

All but the latter part of this week, after a lengthy period of wet weather, was ideal for field work. Temperatures have been moderate for this time of the year, and precipitation was recorded once although skies looked threatening on numerous days.

The cleaning of crested wheatgrass seed was finished. The 40-acre 1938 seeding averaged 166 pounds of clean seed per acre. The cutting of corn was also completed, as well as the seeding of the fall sown grains.

Many operators in the area have been drilling in winter wheat on quite a large scale, those who seeded before the wet weather have excellent emerged stands. The moisture conditions at present are ideal, and winter wheat should make a good growth before going into the winter.

Maximum temperature, 62°; minimum, 25°; precipitation, 0.31 inch.

HUNTLEY:

Light showers during the last week appear to be an extension of the rainy period which began the first week of September and which practically shut down field work for the past month. Damage to harvested field beans, seed alfalfa, and hay has been heavy. Reduction of sugar content in unharvested sugar beets and spoilage in undug potatoes are reported to be considerable.

Stubble lands which are now green with fall growth of weeds and volunteer grain are supplying pasture for farm stock and range cattle and lambs being prepared for the winter feed lots. Stockmen have expressed some concern over the preference of range cattle for the abundant fall growth of crested wheatgrass compared to the well-cured native forage. The new crested wheatgrass is said to be too "washy" for cattle which should be in "hard" flesh at this season.

Maximum temperature 65°; minimum, 28°; precipitation, 0.29 inch.

SHERIDAN:

Following two fairly good drying days the last of the month, rain fell again on the 1st, followed by cloudy weather for the remainder of the week. Temperatures were below the seasonal average throughout the week. More grass seed was sown the first of the week, but only miscellaneous work has been possible since. The sheep sheds were brought to the corral and made ready for winter. Measuring of stock in the 1931 shelterbelt was started and is now in progress. The heads were cut from one block of grain sorghum where the crop emerged promptly after seeding and was fairly well ripened.

September was the coolest since 1934. The rainfall, 3.26 inches, was the highest since 1923.

Maximum temperature, 65°; minimum, 28°; precipitation, 0.48 inch.

MANDAN: Arboriculture:- Collection of Russian-olive seed was completed the early part of the week. The remainder of the week has been spent in taking fall notes and measuring growth of trees.

Horticulture:- Potatoes were dug on September 29 and 30. Irish Cobbler yielded best in the regular variety test and Warba and Chippewa ranked second and third. In the nursery test, Irish Cobbler was also first, and Chippewa ranked second and Warba third. Early Ohio and Triumph ranked toward the end of both tests. In the spacing experiment close spacing resulted in slightly higher yields than medium spacing and decidedly higher yields than with wide spacing. Yields for 1941 were about average. Seed stock free from disease is a very important factor.

The rest of the week was spent in pulling discarded trees in the breeding blocks and orchards. A number of inferior varieties were discarded to make room for testing newer and better ones.

Agronomy:- Potatoes in the rotation experiments were harvested on September 30. The ground was still moist from recent rains and atmospheric conditions were not favorable for drying before picking up. The average yield from 4 rotations was 111.6 bushels per acre, of which marketable potatoes run from 70 to 75 percent.

Precipitation for September (4.16 inches) was the highest since 1900 when it was 4.27 inches. The only other time it was exceeded was in 1876 when 5.61 inches was recorded for September. The

only other years when September exceeded 3 inches were 1894 and 1931 when 3.83 and 3.11 inches, respectively, were recorded.

Maximum temperature, 67°; minimum, 28°; precipitation, Trace.

COOPERATIVE GRAZING EXPERIMENT:

The grazing experiment was closed on October 4 on account of sale of the steers by the owners for immediate delivery. The steers were shipped as feeders to some point in Pennsylvania.

It had been hoped that the experiment would be permitted to run through the month of October, as this is the first time in the history of the experiment that conditions have so favored fall growth of pasture vegetation.

Following are the gains of the steers on various pastures for the month of September and for the season to the end of September:

Pasture	Acres per head	Gain per head (lbs.) September	Gain per head (lbs.) 123 days
100-acre	7.62	40.4	263.8
70-acre	5.38	40.4	270.0
50-acre	3.85	26.9	251.5
30-acre	2.31	21.5	237.0
Rotation (50 acres)	3.85	15.8	231.9
Crested wheatgrass (1932)	1.5	15.0	193.8
Crested wheatgrass (1935)[1/]	1.5	20.0	231.3
Mixed [2/]	1.5	50.0	255.0
Palatability[3/]	---	31.3	270.0
Reserve (93 acres)	---	45.8	241.7

1/ These steers on crested wheatgrass 45 days, palatability pasture 20 days, and native pasture 60 days.
2/ On mixed pasture 65 days, and native pasture 60 days.
3/ On palatability pasture 65 days, and on native pasture, 60 days.

ARCHER:

The weather during the first part of the week was clear and mild, but during the latter part it was cool, foggy, and misty with a light fall of snow. The precipitation totaled only 0.07 inch. The total precipitation during September was 1.35 inches.

Winter cereals have made a good growth, and crested wheatgrass is sending up a green aftermath.

Station activities consisted of putting up silage and digging potatoes. The latter work will be completed today.

Maximum temperature, 70°; minimum, 31°; precipitation, 0.07 inch.

NORTH PLATTE:

Gentle rains fell on Monday, Thursday, and Saturday. No field work could be done on these days. The rain on Monday brought the total precipitation for September up to 3.72 inches or 2.32 inches above normal for the month. The total for the first nine months of the year is 22.36 or 6 inches above normal for this period.

The planting of wheat on the DLA plots was completed during the week. The wheat in the nursery is about 4 inches high, and that planted in the varietal plots is emerging. The alfalfa nursery was cut during the week. Cool temperature grasses have made a good recovery since the rains began in September. The filling of the silo has been delayed because of the wet weather and breakdown of the machinery.

Maximum temperature, 70°; minimum, 41°; precipitation, 0.94 inch.

AKRON:

Rain Tuesday kept the surface soil too wet for most forms of field work. Beans were turned, and seeding was resumed Thursday. The second date seeding of the Crop-Weather Study was made that afternoon. Nursery seeding was resumed Friday, but today, Saturday, opened drizzly putting a stop to that work.

The 45-ton trench silo was completed and the sorgo fodder hauled in by the contractor. About 30 tons were cut and packed into the silo. Progress was also good on the cattle feeding pens. H. B. Osland, Ronald Tom, and Chas. Giles stopped Tuesday to consult with the carpenter.

September passed with 3.56 inches of precipitation. The July 8 seeding of grain sorghums now appears to need but about ten more days until mature enough to harvest. Extra Early Pink Kafir is now in soft dough stage.

Maximum temperature, 78°; minimum, 34°; precipitation, 0.38 inch.

COLBY:

This has been another rainy week. A gentle misty rain fell most of the night Sunday and all day Monday. Since then it has been cloudy, cool, and pleasant. It has been drizzling most of this morning

but only a trace of moisture has fallen. There has been no frost. The corn and sorghums are maturing, but, where they did not dry up before the rains of the last two weeks, they will need frost-free weather the whole of October.

The ground stays wet even on top, excellent for wheat coming up. The wheat on the station was drilled during the week. The D.L.A. plots were drilled yesterday. A very good job was done although we would have preferred it drier on the surface. All the plots were abundantly wet. Some of the early fall-plowed plots were rather hard, harder for the drill to penetrate than the fallow plots. The stubble plots were in the best shape for drilling they have ever been, except in a few spots where there was an excess of straw on the ground. There was practically no volunteer wheat on any of the plots, but considerable volunteer barley has started on the barley plots.

Maximum temperature, 48°; minimum, 47°; precipitation, 0.66 inch.
Precipitation, September, 3.05; 54-year average, 1.52 inches.
Precipitation, January-September, 1941, 28.73;
54-year average, 15.45.

HAYS:

Precipitation occurred September 28, 29, 30 and October 4. As a result the ground has been too wet for wheat seeding. It was planned to start drilling this morning, but rain during the night further delays the seeding.

Sorghum maturity advanced rapidly during the week. Blackhull and Wheatland sorghums are practically mature except for a few late tiller heads. Pink kafir is about 85 percent mature.

The Experiment Station has been busy with silage work when weather and soil conditions permitted harvesting. The work on the new seed house has been partially delayed by wet weather. The brick walls are slightly above the second floor.

September 29, 30 and October 1 were conference and schooling days at Hays for Grass Specialists, Farm Security Workers, and State County Agents. A portion of the time for each group was spent on the Experiment Station. The station employees assisted with the program.
Maximum temperature, 94°; minimum, 39°; precipitation, 2.15 inches.

GARDEN CITY:

Rainfall for the week amounted to 1.44 inches, and 1.31 inches of this came in one rain which started Sunday afternoon and ended Monday afternoon. The rain came slowly and no run-off occurred. This brought the total for September up to 1.52 inches, which is a little below the average of 1.74 inches. March and September are the only two months thus far this year which were below the average for rainfall. The total for the year to the end of September is 23.44 inches. The average for the same period is 14.77 inches. The moisture the past week has put the wheat seedbeds in excellent condition for drilling and this will be done next week.

Field work consisted of cultivating and packing a few of the plots that were too loose and dry to work before the rains, taking soil moisture samples, topping and binding sorghums, and staking out plots for wheat planting.

Station visitors were Professor L. E. Melchers, E. D. Hansing, and J. O. Miller, Pathology Department, Kansas State College.

Maximum temperature, 77°; minimum, 40°; precipitation, 1.44 inches.

DALHART:

Five rains during the week, totaling 3.04 inches, brings the total for the year to 36.27 inches, which is well above the previous wettest year. The 1941 precipitation is now more than twice the normal and it is approximately three times the average precipitation for the immediately preceding eight years.

For two weeks now field work has not been possible. A few farmers, whose land is sandier than the station soil, have gotten in a few days harvesting of forage sorghums during this period. Many farmers have lost a small acreage that was harvested and not shocked prior to this rainy period. A high wind today is causing severe lodging of the taller sorghum plants so that they can be harvested only with great difficulty if at all. The sorghum plants and heads especially contain much moisture, so that grain sorghum harvest may not be possible before frost.

There was very little run-off from these rains so that the surface three feet , as shown by soil samples today, are now saturated.

Maximum temperature for the week, 84°; minimum, 39°; precipitation, 3.04 inches.

BIG SPRING:

The heaviest rain of the year was received the night of September 30 when 2.35 inches was recorded; this continued the next morning with 0.46 inch, making a total of 2.81 inches. This brings the total for the first nine months of the year to 25 inches. Judging from reports from other parts of the county, the rains were much heavier there than at the Station. Several farmers reported as much as 5 and 6 inches.

Very little cotton was picked during the remainder of the week, as damp, cloudy weather prevailed to such an extent that the lint did not dry out. Cotton picking was continued on the Station during the first two days, but the rest of the time was devoted to making wire baskets for sorghum heads, pulling and seeding broomcorn from the July 15 dates, and working on feed pens.

Maximum temperature for the week, 86°; minimum, 50°; precipitation, 2.86 inches.

LAWTON:

Torrential rains deluged much of southwestern Oklahoma and north Texas during the past week. Flood conditions prevail in many places, and crop damage and loss, especially to cotton, has been heavy.

Rains recorded at the station from September 24 to October 3 totaled 5.68 inches. The total for September was 5.99 inches. The total for the nine months, January to September was 31.87 inches. To date the total is 35.72 inches.

Preparation of seedbeds for small grains was completed September 30, but no additional work has been possible, and all the land will have to be tilled again before seeding.

Volunteer wheat, oats, and barley are making rapid growth. Cotton is badly weather stained, much of it blown out, and leaf worm and boll weevil injury all add up to heavy losses.

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REPORT FOR THE WEEK ENDING OCTOBER 11, 1941

HAVRE:

The latter part of the week, in particular, was characterized by heavy winds and cool temperatures. Some dust blowing was noted on the 10th, but it was not heavy enough to be serious.

Work in the experimental field was rather limited. The sorghum stover was cut. Some waffle listing was completed, using attachments that fasten behind an ordinary lister. The potatoes in the commercial fertilizer trials were dug. Yields ranged from as low as 30 bushels per acre on spring-plowed oat ground to a high of 120 bushels on fallowed land. One hundred and twenty-five pounds of treble superphosphate was used and as usual did not give uniform results. The only plot where commercial fertilizer seems to give results worth mentioning is the one on which potatoes are grown continuously, in this trial they have yielded around 20 percent more. Evidently, under dry-land conditions the treble superphosphate takes more than one year to become available. Oats in the rotations have only yielded a little over 1 bushel more following potatoes that were fertilized. Indications are that it does not pay to use treble superphosphate on dry-land potatoes.

Seeding of crested wheatgrass on the abandoned farm land that was leased from the State was interrupted by the terrific winds. About 80 acres have been seeded to date. About 20 tons of third cutting Ladak alfalfa hay were put up.

Maximum temperature, 69°; minimum, 22°; no precipitation.

JUDITH BASIN:

This week was typical for October, although temperatures during the first few days were rather low. A few days were windy, causing the top soil to dry out considerably. No precipitation was recorded the last five days of the week.

Although the soil is still rather wet, the potatoes are being dug with yields somewhat higher than for a number of years. With continued good weather next week, it is hoped the fall plowing can be completed.

Farmers are still busy seeding winter grains and crested wheatgrass, in the surrounding areas.

Maximum temperature, 64°; minimum, 13°; precipitation, 0.36 inch.

HUNTLEY:

Clearing skies together with moderate winds during the last week dried the soils sufficiently to permit work in the fields on Wednesday. Sugar beet harvest, bean and seed alfalfa threshing, haying, and seeding operations have been resumed in this area to the capacity of the available labor. At the beginning of the period the seeded

acreage of winter wheat was estimated by county officials at 4% of completion, but this amount has been substantially increased during the last few days.

Crested wheatgrass seeded a year ago which emerged with very thin stands this spring now presents a satisfactory cover as a result of new germination and revived seedling growth. On old stands the fall growth of unpastured crested wheatgrass is 11 inches tall.

Work on the dryland project at the station has included fall tillage, seeding winter wheat, rye, and crested wheatgrass, husking corn, and cutting alfalfa.

Maximum temperature, 72°; minimum, 27°; precipitation, 0.04 inch.

SHERIDAN:

Following rain and snow on the 5th and 6th, fair weather prevailed over the remainder of the week, with a gradual rise in the maximum temperature from 34° on the 5th to 72° on the 10th. Potatoes in Rotation 37 were dug on the 8th, and the plot was sown to winter wheat. The potato varieties were dug the 9th and 10th, and the variety corn fodder and some of the Sudan grass and sorghum plots were weighed the last of the week. An excellent stand of crested wheatgrass is apparent with seedings made the week of September 20, but later grass seedings appear to be slow in emerging. The regular seedings of fall grain emerged September 19, and a good growth is being made.

Maximum temperature, 72°; minimum, 29° on 4 days; precipitation, 0.61 in.

DICKINSON:

Rain on Saturday night continued intermittently through Sunday, turning to snow. About 4 inches of snow covered the ground on Monday morning. This was wet and clung to the foliage of trees, most of which still retained their leaves.

Precipitation amounted to 1.09 inches, which is above the normal for October. Total to date in 1941 was increased to 30.55 inches.

The sky was clear on Tuesday, October 7 for the first full day in more than two months. The rest of the week was generally fair with mild temperatures.

The soil was thoroughly soaked. Most of the water holes are full, although there was little run-off during either September or in October.

Potato yields were 140 bushels on summer fallow on Rotation 414 and 123 bushels per acre on spring-plowed wheat stubble on Rotation 415. These yields were above the long-time average but are not so high as might be expected with the generous rainfall of the year.

Husking of corn on the rotations was continued.

Maximum temperature, 71°; minimum, 27°; precipitation, 1.09 inches.

MANDAN:

Arboriculture: The taking of fall notes was completed the middle of the week. Plowing and pulling nursery tree stock followed and is in progress at the present time. There has not been sufficient frost to cut the leaves or check growth. A few species are still very green and are continuing to make terminal growth.

Horticulture: Work during the week included pulling trees and hauling brush. A large number of trees have been discarded in the breeding blocks and variety testing orchards in order to make room for other plantings.

Agronomy: More rain during the early part of the week slowed up drying of corn in the shock, but favorable drying weather during the latter part made it possible to finish a little job of threshing millet and sorghum seed blocks, and to start shredding corn. The corn was none too dry but it was feared that further precipitation might make conditions worse rather than better. Excessive rains this fall have deteriorated the corn stover to such an extent that it is of little value as feed.

Maximum temperature, 69°; minimum, 29°; precipitation, 0.78 inch.

BELLE FOURCHE: Report for two weeks ending October 11, 1941

Raw, cold weather prevailed most of the period, but the last two days were clear and warm. There was more cloudiness than usual, but precipitation was limited to a few light showers and snow flurries.

Plant growth was retarded by the cold, cloudy weather, but winter grain seeded two weeks ago is finally beginning to emerge. Volunteer grain has made an exceptionally heavy growth this fall, owing to the favorable moisture conditions and the extensive shattering that occurred when grain bundles were blown about by the severe wind storm in August.

Field work included duck-footing fallow and green manure plots, and completing late fall plowing.

W. F. Buckholtz, South Dakota Experiment Station, Brookings, is visiting the station for a few days in connection with pathological investigations on the irrigated rotations.

Maximum temperature, 75°; minimum, 25°; precipitation, 0.24 inch.

ARCHER:

The weather during the fore part of the week was cool and threatening and during the latter part it was mild and clear. Winter cereals have made good growth. The fall growth of grass is of considerable benefit to livestock, especially to lambs that have been weaned. It is also acting as a flushing feed for breeding ewes.

Station activities consisted of threshing the crested wheatgrass, husking corn, and plowing in the rotation plots. The plowing will be practically finished today. The soil is moist and in good condition for tillage. The clippings of grass on the various SCS experiments is in progress.

Outstanding features of small cereal yields are those of spring wheat where beans are in the rotation; yields of winter wheat, spring wheat, and oats on green manure; and the response of spring wheat and oats to fall plowing. No doubt the wet weather during September 1940 and the heavy precipitation during the early part of the past season were factors in producing these results.

Maximum temperature, 71°; minimum, 26°; precipitation, 0.20 inch.

NORTH PLATTE;

Fair weather prevailed throughout the week. Little more than a trace of precipitation was recorded. The winter wheat in the D.L.A. plots is emerging. A bulk field of Improved Coes was harvested with a corn binder during the week. This field was planted the first week in July, and the grain was not very well matured. Three plots of drilled sorgo were hauled in and weighed Friday. The air dry yields were as follows:

Early fall plowed after barley (manured) - - - - - - - - - - - - 4.3 tons
Spring plowed after barley (manured) - - - - - - - - - - - - - - 3.8 "
After summer fallow - 5.7 "

The filling of the silos at the main station was completed on Saturday.

Dr. H. O. Werner visited the station Monday and directed the weighing and grading of potatoes from the irrigated potato project.

Maximum temperature, 74°; minimum, 33°; precipitation, 0.02 inch.

AKRON:

Rains Saturday and Monday continued a sticky surface soil condition. Temperature dropped to 28° on Monday night to create much more havoc than the 28° experienced the night of September 8. Films of ice were frozen over every little puddle depression this time, whereas only little tongues of ice formed on the edges of stock tanks before. This finished-off the lima beans, which were immediately harvested. These beans were not touched by the earlier frost.

The remainder of the nursery bagged heads of sorghums were brought in Monday. Cereal small grain nursery seeding was resumed Thursday afternoon and was well completed by the week end. Row crop binder harvest was started Friday afternoon, and the remainder of the rotation plots and the first replication of the sorghum varieties were harvested. Second soil moisture determinations were made from the Crop Weather Study and the samples dispatched to Fort Collins.

Nicely emerged winter wheat has made but little growth thus far.

R. C. Tom of the College Staff visited Tuesday to check the progress of the cattle feeding pens.

Maximum temperature, 74°; minimum, 28°; precipitation, 1.23 inches.

COLBY:

This has been a typical fall week. There were light showers the fore part of the week followed by a drop in temperature to 32° on Tuesday morning with a heavy frost. No vegetation was frosted, although a heavy coat of frost covered everything.

The sorghums and the late corn continue to ripen. Cutting the sorghums and filling silos has been general among the farmers as well as on the station this week. The sorgo field on the station averaged about 9 tons of silage to the acre.

The winter wheat planted on the 3rd on the project is coming up today. It has been too cold most of the time for quick germination. Soil samples taken this week show moisture down from 18 inches to more than 6 feet. The surface foot is thoroughly saturated. Where corn or sorghum crops have been growing the moisture has not penetrated below the second foot in most cases. In wheat stubble ground, however, it is almost as deep as on fallow.

Maximum temperature, 77°; minimum, 32°; precipitation, 0.08 inch.

HAYS:

A light rain the first of the week following rain reported last week made the ground too wet for tillage or seeding until the middle of this week. During the last half of the week it has been fair and warmer, and soil conditions now are ideal for tillage or seeding.

It was necessary to surface till a good many plots for the destruction of another crop of volunteer wheat. Seeding the winter wheat plots was commenced October 8 and will be finished today, except for plots on which the wheat is preceded by a sorghum crop. The sorghums are not yet fully mature. It is now planned to drill the wheat on these plots with a one-horse drill the first of next week.

The Experiment Station is very busy harvesting sorghums for seed crops and for silage. They are now operating three two-row binders. Seeding winter wheat on the commercial fields will be finished today.

Maximum temperature, 82°; minimum, 38°; precipitation, 0.21 inch.

GARDEN CITY:

No precipitation was recorded this week. Wind velocities were rather high on a few days. A light frost occurred Monday night, but the minimum temperature was only 36° and no damage resulted. The lister-planted plots which were planted three times before a stand was obtained, the last date being June 30, are well filled and yields will be very good particularly if frost holds off a few days longer.

Wheat and rye were drilled the first part of the week in a moist seedbed and good stands should be obtained. Sorghums which were sufficiently mature were bound and shocked, and soil moisture samples were taken on the milo and wheat plots.

R. W. Leukel, Washington, D.C. and A. F. Swanson, Hays, Kans. were station visitors.

Maximum temperature, 85°; minimum, 36°; precipitation, 0.

LAWTON:

Open weather with moderate temperatures prevailed during the week. Only one shower of 0.10 inch was recorded. Fields dried sufficiently the latter part of the week to permit seeding of wheat and barley on the rotation plots on the 11th and of wheat in the weather project on the 10th.

The first picking of cotton in the rotation plots was completed on the 11th. Practically all the cotton was open, and it is not likely that there are enough green bolls remaining to justify another picking later on. The seed cotton was badly blown out and the burrs had rotted during the wet weather. Because of this condition snapping was resorted to rather than picking. Picking was very slow and tedious and the labor required as well as the scarcity of it would have made the cost prohibitive. Ten pounds of clean seedcotton will be picked from the snapped plots and ginned so that yields and lint percentage may be calculated.

The second growth of sorghums is getting rather rank, and volunteer fields of wheat, oats, and barley are providing lots of pasturage for livestock

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NOTE:

The last weekly report for the year will be for the week ending November 1. November-March reports will be monthly.

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REPORT FOR THE WEEK ENDING OCTOBER 18, 1941

HAVRE:

Freezing temperatures occurred on only one night during the past week, daytime temperatures ranged from 61° to 74°. Wind movement was relatively low except on the 13th and 16th when the 24-hour averages were 11.9 and 12.4 miles per hour, respectively.

The principal activity of the week was with the livestock at the lease in the mountains. The cows and calves were rounded up and weighed. The Hereford calves, steers and heifers, averaged 405 pounds, and the crossbred which are mostly late calves, averaged 344 pounds. The calves made a gain of around 1½ pounds per day for the last 20 days. The cows lost 1¼ pounds per day during the same period. Undoubtedly the cold weather, with frequent snows, has had something to do with the loss in weight of the cows. However, it has been observed that the cows have always lost weight in this particular pasture every year. It is very rugged and has many steep slopes, but there is ample grass and water is fairly well distributed. The calves and a carload of cull cows were trailed to the station on Friday and Saturday.

Twenty-two acres of Elymus junceus and 22 acres of junceus and crested wheatgrass were seeded on abandoned land recently leased from the State. Another date of seeding winter wheat was made on Wednesday. Samples of 56 varieties and selections of wheat were sent to Washington for milling and baking tests. It finally dried up enough to thresh the registered Ladak alfalfa seed. The crop was a little heavier than last year.

Maximum temperature, 74°; minimum, 27°; precipitation, 0.

JUDITH BASIN:

Temperatures this week were considerably higher, with only one minimum below 32°. No precipitation was recorded, and field conditions were again ideal.

Fall plowing in the rotations was completed, and during the last part of the week the soil turned over in excellent condition.

The potato rotation was seeded to winter wheat, and a seeding of crested wheatgrass was made with the furrow drill in the native grass horse pasture. Weekly seedings are planned if weather permits.

Crested wheatgrass seed is beginning to move.

Maximum temperature, 76°; minimum, 29°; precipitation, 0.

HUNTLEY:

Soil and weather conditions have permitted field work throughout the week, and considerable progress has been made. On the larger wheat farms seeding has been under way with all available equipment, and a large acreage is now in the ground. A small amount of fall plowing has been done, but the heavier soils are still too wet for good work.

On the station winter wheat seeding was completed on plots and in the nursery, haying operations were continued, and corn husking made some progress. Much of the time was devoted to a general round of soil sampling. Moisture conditions this fall are the best in many years. Samples indicated moisture penetration into the 3d foot in all plots and into the 4th foot in a few plots. There appeared to be little difference in moisture content between fallowed and continuously cropped land.

Maximum temperature, 75°; minimum, 28°; precipitation, 0.

SHERIDAN:

Fair weather prevailed after the 12th. The week was occupied mostly in hauling, weighing, and shredding corn fodder, Sudan grass, and other sorghums. Fields have now been fully cleared, except for the grain sorghum sown on land in small grain last year, where the crop still appears to be maturing some. A fair stand of all grasses sown this fall now appears to have emerged.

Maximum temperature, 70°; minimum, 31°; precipitation, 0.18 inch.

DICKINSON:

Mild, mostly clear, and drying weather permitted threshing and other field work to continue in the district most of the week. Widely scattered fields of shocked grain still remain to be threshed. Some of this grain which went through the rains still grades No. 1, but most of it, as a result of the long periods of wet weather, has been lowered 1 or 2 grades in quality by sprouting.

Winter wheat and winter rye are in excellent condition. Where these grains were planted on oats or barley stubble, the volunteer growth is so rank that the planted grain is being held back.

Leaves have mostly fallen in the orchard and shelterbelt, after having remained later than in most recent years and fully 6 weeks later than in some of the dry years. Most of the trees have made a vigorous growth. They appear to be hardening properly and with the excellent moisture supply in the soil should be in good condition to start the winter.

Maximum temperature, 76°; minimum, 27°; precipitation, 0.04 inch.

Total precipitation to date in 1941, 30.59 inches.

MANDAN: Arboriculture:

Plowing and pulling of nursery tree stock has been continued all of the week. A heavy foliage is present on most of the stock.

Horticulture:

Raspberries and part of the grapes were pruned during the week. Trees in the nursery have been pulled and are ready to heel-in for the winter. A good supply of apples, crabs, and small fruits is on hand for horticultural cooperators, but not so many plums as usual.

Agronomy:

The week was characterized by pleasant, moderately warm weather, the latter part cloudy with occasional showers. Volunteer cereals abundant in some of the rotation plots do not show any frost damage yet. If the warm weather continues another week or ten days there will be some heading.

Maximum temperature, 71°; minimum, 33°; precipitation, 0.06 inch.

BELLE FOURCHE:

The greater part of the week was clear and warm, but the last two days were cloudy and unsettled with frequent light showers.

Fall grains came up with perfect stands and are making good growth. Potatoes were harvested, and the yields were nearly normal where satisfactory stands were obtained; but the stands generally were very poor, owing to rotting of seed and insect injury.

Lamb feeding experiments at the station were commenced, approximately 1,000 lambs being used in the trials.

Dr. J. W. Wilson, South Dakota Experiment Station, was a visitor at the station.

Maximum temperature, 78°; minimum, 26°; precipitation, 0.12 inch.

ARCHER:

The weather during the fore part of the week was cool, cloudy, and threatening with some rain, but the latter part was clear and warmer. A shower during the night of October 13 delayed corn husking for a short period. This work is still in progress.

Winter cereals are in good condition, and soil moisture appears sufficient to carry the crops through the winter. The station lambs are cleaning up the corn fields and appear to be gaining weight rather rapidly.

Maximum temperature, 74°; minimum, 26°; precipitation, 0.33 inch.

NORTH PLATTE:

The only precipitation recorded this week was a light shower Tuesday night. Indian summer weather has prevailed most of October to date. Most of the stacking of the fourth crop of alfalfa was completed during the week. Large flocks of blackbirds in migration are doing considerable damage to unharvested sorghums in the surrounding area. These birds are more numerous than they have been for several years.

The work on the table station during the week consisted of stacking Early Kalo heads and hauling Sudan grass hay. The winter wheat bunt nursery was planted Tuesday.

Messrs. R. M. Salter and A. L. Hallsted visited the station on Thursday.

Maximum temperature, 76°; minimum, 38°; precipitation, 0.08 inch.

AKRON:

The wet period was continued with several nightly drizzles, the latest 0.19 inch Friday evening. However, the surface soil finally settled so that some types of general farm work could be accomplished. The long delayed cereal nursery planting was finally finished on the 19th.

Harvest of the sorghum varieties was completed, and the experimental potatoes were dug. Corn from the cereal variety ground was hauled in and shocked about the building site. All rotation plots to go through the winter bare were duckfoot cultivated, the fall plowed ones to eliminate volunteer grain, and the fallow and green manure ones to roughen the smooth compacted surfaces. The early fall listed stubble plots were cultivated outward for the first of these mentioned purposes. Brunker oat stubble for next year's dry bean experiments was duckfoot cultivated to eliminate a veritable green carpet of oats.

Potatoes on fallow produced 46.3 bushels per acre, and three plots on oats-stubble land averaged 29.7 bushels. Potatoes very definitely suffered between August 15 and about September 10 from the lack of good rains.

Threshing of the proso, the dry beans, and the grain sorghums is next in order. A cessation of the nightly showers would now be appreciated. Maximum temperature, 79°; minimum, 35°; precipitation, 0.33 inch.

COLBY:

This week has been generally favorable for harvesting sorghums and other fall work. A light shower on Monday night wet the surface soil but did not delay field work very much. Since then the weather has been mostly calm and pleasant. The minimum temperature dropped to 32° on the morning of the 16th. A heavy white frost covered everything, but no damage was evident even on tender plants.

All the sorghum plots, except the milo, were cut with a row binder Monday and were shocked, also the corn plots, except those that are to be husked in the field. The corn was all fairly well matured. The feterita was well matured. The kafir and Early Sumac were almost ripe. The forage and grain yields on all these crops will be by far the best in years. The milo plots will be harvested with a combine, if possible. The milo is mature enough for cutting, but not for combining. It ranges between 24 and 30 inches in height. The yield will not be as heavy as that of the other row crops when compared with recent years. Milo has yielded fairly well relative to the other row crops during the dry years, but this year there is a lot of sterility in milo. Many of the heads have only a few grains. This is probably due to the dry weather in August and early September. Blackhull wheat showed a similar condition this year, but that was generally attributed to too much wet weather early in June. Wheat, however, started drying in May before heading, as the corn and sorghums did early in September.

The prize crop on the station this year is Norkan sorgo. It matured a heavy crop of grain and forage, and the stalks are very sweet, much sweeter to the taste than the Early Sumac.

The winter wheat on the plots came up on the 12th and made a big growth that day under stimulus of temperature in the 80's that afternoon. A good stand was obtained on all plots with no grasshopper damage.

Messrs. R. M. Salter and A. L. Hallsted visited the station Wednesday.

Maximum temperature, 83°; minimum, 32°; precipitation, 0.23 inch.

HAYS:

The weather has been mild and generally fair. No frost has been recorded on the Experiment Station, although light frosts have been reported in vicinities to the north and west. The foliage on the trees along the stream is beginning to put on fall colors, and native pasture grasses are drying off.

The emergence of winter wheat seeded last week is very good. The wheat was up to a good stand on practically all plots one week after its seeding date.

Conditions were ideal for all kinds of outside work. Winter wheat was drilled in the corn and sorghum stalk plots. The remainder of the week was used for heading sorghum crops.

Maximum temperature, 87°; minimum, 36°; precipitation, 0.05 inch.

GARDEN CITY:

Rainfall for the week came in two light showers on Monday and Tuesday which totaled 0.31 inch. No killing frost has occurred as yet, but the temperature dropped to 34° Wednesday evening.

Winter wheat and rye are up to excellent stands on nearly all seedbeds. Moisture depth on fallow is approximately 6 feet and on early fall plowed continuous, cropped ground, approximately 2 feet.

Field work consisted of binding a few of the remaining sorghum plots and taking soil moisture samples.

Rufus F. Cox and A. P. Davidson, Kansas State College, were station visitors.

Maximum temperature, 86°; minimum, 34°; precipitation, 0.31 inch.

TUCUMCARI:

Much cooler temperatures the past week brought fear of frost, but the lowest reading to date was 37° on Friday. Precipitation of 0.15 inch early in the week delayed harvest three days and brought the total for the month to date to 1.29 inches. Total for the year to date, 29.54 inches, is still below the all-time high of 1919 by some 4 inches and slightly lower than the second-high year of 1923.

Station work consisted of harvesting rotation kafir plots and forage sorghum variety plots, heading of milo, and completion of cowpea and bean harvest.

Some three days of clear weather are required for completion of station binding. A large number of plots remain to be headed, but frost would not greatly affect these other than to hasten hardening of grain on immature plots.

Where wet land did not prevent seeding wheat on or near a normal date, the crop is growing rapidly and promising good pasture. Ranges are excellent, indicating less demand for wheat pasture than in recent years. In many parts of the county, harvest of row crops has been greatly retarded by heavy rains, with heavy damage occurring to broomcorn brush.

Maximum temperature, 86°; minimum, 37°.

BIG SPRING:

Rain and cloudy, damp weather again delayed cotton picking in this section. A total of 0.47 inch was received at the Station, but the northern and western parts of the county reported 2 to 4 inches, and a strip across the adjoining county reported heavy rains accompanied by a damaging hail storm. Several thousand bales of open cotton and a large amount of feed were destroyed.

There seems to be a fairly good supply of pickers available now, so if the weather remains favorable for the next two or three weeks, cotton will come to the gins at a rapid rate.

Station work has consisted of picking cotton, cutting and shocking increase Hegari, and making head baskets.

Maximum temperature, 90°; minimum, 45°; precipitation, 0.47 inch.

LAWTON:

A drenching rain of 2.09 inches on the 14th followed by cloudy, damp weather that brought the weekly total to 2.21 inches stopped all field work, delayed small grain seeding, interrupted highway traffic, and added further deterioration to unpicked cotton.

The October precipitation to date of 6.16 inches together with the September precipitation, amounts to 12.15 inches.

Rotation plots of wheat and barley seeded October 11 emerged to good stands on the 17th. All the wheat variety tests and half of the winter oats varieties were seeded on the 14th. All the winter barley varieties and the remainder of the winter oats remain to be seeded at the first opportunity. The winter hardiness nursery of oats and barley were also seeded on the 14th as well as a winter barley chinch bug nursery.

Aside from seeding done before the rain, work for the week consisted mainly of picking seedcotton samples from the snapped cotton.

WOODWARD: Report for three weeks ending October 18, 1941

The first part of the period was rather warm and windy. Crops ripened rapidly. Over 2 inches of precipitation fell gently over three days of last week. Little field work was done during this period. Most of the grain sorghums have ripened and have been harvested. Yields will be rather high. Winter wheat and other small grains have been planted, and most plots are up to good stands. The regular seasonal soil moisture samples have been taken, cotton has been picked, and Station lawns have been mowed, probably for the last time this season. Fruit harvested consisted of late apples and Chinese jujubes. Cars, trucks, and tractors have been serviced with non-freeze solution for winter use. A large field of Sudan grass, planted in preparation for grass seeding on the range unit, was mowed for the third time this season.

Winter wheat over this section is generally up to a good stand and should furnish a large amount of winter pasture.

Maximum temperature, 92°; minimum, 41°; wind velocity, 7.3; precipitation, 2.94 inches; total precipitation for 1941 to date 33.20 inches.

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NOTE:

The last weekly report for the year will be for the week ending November 1. November-March reports will be monthly.

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OCT 2 5 1941

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REPORT FOR WEEK ENDING OCTOBER 25, 1941

HAVRE:

Weather during the week was favorable for the growth of fall grains. Wind movement was very slight and there was no precipitation.

The major portion of the work was with the livestock. The calves were separated into sire groups and pictures taken. All calves were scored and dipped with the basket type plunge. It took one hour and 45 minutes to dip 118 calves. Kolodip, a new dip that supposedly requires only one operation was tried. Dr. Cronin of B. A. I. and Dr. Welsh of the Veterinary Department at Bozeman supervised the work. Forty-five steer calves were shipped to Bozeman and twenty-one were trucked to Judith Basin Branch Station.

The calves were trailed 28 miles from the lease this year and shrank 4.6 percent. They were weighed after overnight rest and fill. Last year the calves were trucked down and showed a shrink of 4.3 percent. They were weighed after an overnight fill also. The handling both before and after they were moved was very nearly the same both years.

In the experimental field, soil moisture was taken in the methods of fallow project. Field-dried corn weights were taken on the rotations, date of seeding, and corn varieties. The fallow was worked to kill the new growth of mustard.

Seeding various grasses on the new lease of abandoned land was completed. Six different kinds and one mixture of grasses were used. The Cumberland clover was threshed, and land leveling operations were started on fields to be reseeded to alfalfa next year.

Maximum temperature, 70°; minimum, 27°; precipitation, 0.

JUDITH BASIN:

Except for several chilly mornings the weather was most delightful with very little wind and no precipitation.

Twenty-one steer calves were received by truck on Wednesday from the Havre Station for the proposed pasture tests. These steers are an exceptionally uniform group averaging from 375 to 400 pounds each. It is planned to obtain locally 15 other similar calves to complete the group for the winter and summer experiments. The winter feeding and pasture experiment should be inaugurated by November 15.

Station work has included cultivating shelterbelts and crested wheatgrass seed blocks and painting buildings

Maximum temperature, 70°; minimum, 29°; precipitation, 0.

HUNTLEY:

Favorable weather throughout the week has permitted continuance of field work during the period. Seeding winter wheat on the larger farms has been completed in most instances. It has been reported that some early plantings which emerged with weeds have been destroyed by cultivation and

the fields resown. On most farms, however, drilling was postponed until rains started weed growth which could be cleaned up before the winter wheat was planted.

The principal field work conducted on the plots during the week was raking and bunching a late crop of seed alfalfa, husking corn, and hauling in and weighing corn stover.

Maximum temperature, 63°; minimum, 28°; precipitation, 0.

SHERIDAN:

Fair weather with temperatures slightly above the station average prevailed over the entire week. Besides enabling ranchers to do ordinary fall work, it was especially welcome to beet growers, who previously had not been able to get the beets dug in sufficient quantity to keep the factory going to capacity. Except for heading some of the grain sorghum varieties, only miscellaneous work was done on the station.

Maximum temperature, 66°; minimum, 28°; precipitation, 0.

DICKINSON:

Cloudy and foggy weather early in the week was followed by clear, bright, mild, typical fall weather. Moderate temperatures continued with white frost covering vegetation in the mornings. The minimum temperature to date is 21°.

Perennial grasses and volunteer grains are still green and provide excellent pasturage.

Corn on the rotations was hauled in and weighed. The average yield of 34.5 bushels on the main rotations was the best harvested since 1927 and was exceeded only by the crops of 1909, 1923, and 1927.

The lowest yield of grain, 23.3 bushels, was on summer fallow. This was in contract to results in most recent years when the highest grain yield was produced on fallow. Continuously cropped plots, both on spring plowing and fall plowing, were below the average of corn grown in rotations. The high yield of any plot harvested was 41.9 bushels in rotation 71, which contained manured fallow.

The average yield of ear corn on eleven plots on Field N was 35.8 bushels. Corn on this field was injured less by hail on July 9 than that on the home field.

Corn in the district has produced an excellent crop this year. A few corn husking machines have been sold. A little corn is being sold to livestock feeders, but practically all corn grown in the district is fed on farms where produced.

Director H. L. Walster visited the station on October 22.

Maximum temperature, 61°; minimum, 21°; precipitation, 0.02 inch.

MANDAN: Arboriculture:

Pulling of nursery stock was completed the middle of the week, and all stock was heeled-in in the winter storage bed by the end of the week. A small amount of ash and hackberry seed was also collected.

Horticulture:

Trees in the nursery and seedbeds were dug and heeled-in for the winter. A good supply of stock is on hand for horticultural co-operators. Raspberries and part of the grapes have been laid down and covered with soil. Grape cuttings are being made. Potted trees were moved into the root cellar.

Agronomy:

The week was moderately warm and mostly cloudy. Fall seeded grasses continued to grow, and volunteer oats on land badly infested with grasshoppers when the crop was ripening is heavy enough for a good hay crop.

Maximum temperature, 63°; minimum, 28°; precipitation, 0.

ARCHER:

The weather during the week was humid with fog, mist, and occasional light rains. The precipitation was light, and the temperatures were sufficiently low as to cause some chilly weather. Those conditions were favorable for winter cereals and the fall growth of crested wheatgrass.

Station activities consisted of sorting potatoes, finishing the husking of corn, and making the last weighing of sheep. Most of the sheep are in good condition and breeding started today.

Maximum temperature, 66°; minimum, 25°; precipitation, 0.24 inch.

NORTH PLATTE:

Cloudy foggy weather prevailed throughout the week. A light rain fell Tuesday night. The wet weather has delayed threshing sorghums and the stacking of the last of the fourth cutting of alfalfa. Nearly all of the fall soil samples were taken during the week. Moist soil is found in the sixth foot in the fallowed plots. Part of the corn in the dry-land hybrid project was harvested this week. Yields will average approximately 35 bushels per acre. A few plots yielded over 50 bushels per acre.

Dr. A. C. Hildreth of the Cheyenne Horticultural Station visited the station this week.

Maximum temperature 66°; minimum, 46°; precipitation, 0.28 inch.

AKRON:

Beginning Tuesday rains again set in to continue intermittently under overcast skies. Millet threshing was started Monday on some increase plots of Kursk. The bundle butts were too wet to run through the machine and heads were inserted to remove fully 90 percent of the seed.

By building gates inside, and hanging them at odd rainless times, the contractor finished the cattle feeding pens by this week end.

After each rain now, the station takes on a very rainsoaked, bedraggled appearance. Winter wheat is making no appreciable growth. Grasshoppers are damaging the edges of plots.

Maximum temperature 70°; minimum, 35°; precipitation, 0.89 inch.

COLBY:

This has been another damp, fall week. Precipitation was recorded every day but one, but the total was less than half an inch. There has been no frost, and the late corn, milo, and other sorghums are gradually maturing. The sorghums which have been harvested are not drying out. On many fields the bundles have not been shocked and are beginning to spoil lying on the wet ground. Farmers are generally setting them up in shocks, damp, in the hope that there will be less spoilage that way.

Winter wheat is making very rapid growth. The volunteer and early seeded wheat are exceedingly rank. Leaf rust is showing up in many fields of that kind of wheat. The tens of thousands of sheep and the several thousand head of cattle shipped in can not begin to keep down the growth.

Maximum temperature, 76°; minimum, 37°; precipitation, 0.40 inch.

HAYS:

The week was very damp and almost sunless. Precipitation ranging from a trace to 0.36 inch was recorded on five days. There was almost no wind, and the daily temperatures were mild.

As a result of the damp weather, germination of wheat on all plots is almost perfect regardless of rotation or tillage methods used. The germination on commercial fields is equally good except where heavy local rains and flooding has occurred. The growth of early germinated volunteer is extremely heavy. Volunteer spring wheat on the project is now about 14 inches high and headed. Barley and oats are also heading.

The wet weather has delayed the sorghum harvest and other outside field work.

Most of the bricklaying has been completed on the new seed house, and the second floor, which is concrete, was poured yesterday.

Train and mail service has been very irregular at Hays during the past week due to heavy rains and flood waters at Ellsworth, Salina, and other localities east. Much of the low land has been reported under water several days. Considerable fear is entertained for the condition of the fall seeded wheat that has been under water so long.

Maximum temperature, 76°; minimum, 41°; precipitation, 0.99 inch.

GARDEN CITY:

Precipitation every day this week amounted to 1.49 inches. The total thus far for this month is 1.93 inches. This weather has aided the wheat in becoming established, but leaf rust is appearing in some of the fields. The early sown wheat and volunteer are making excellent pasture, and large numbers of lambs are being shipped into this area.

No field work was done during the week, except an attempt to take soil moisture samples, but this was halted before completion because of rain.

Maximum temperature, 78°; minimum, 43°; precipitation, 1.49 inches.

TUCUMCARI:

Rain occurred on three days of the week, bringing the total for the month to date to 4.59 inches, the second highest of any October on record, and the year to date to 33.87 inches.

Since Tuesday noon outside work has been impossible. There remains about one day of binding, row and drilled. A large number of plots remain to be harvested. Shocked sorghums are discolored but should not be severely damaged. Baskets of sorghum heads, at least 200 in number, offer three possibilities - drying with little injury, molding, or sprouting. For a week there has perhaps been a total of not over 10 hours sunshine.

Much broomcorn is reported heavily damaged, and minor damage to all sorghums has occurred. However, seeded wheat is excellent, ranges are the best in years and soil moisture is better than any time since samples have been taken in this vicinity.

Maximum temperature, 80°; minimum, 47°; precipitation, 3.28 inches.

DALHART:

The week just ending has been the most discouraging one of the year. Precipitation was recorded on five consecutive days. Total rainfall was 3.04 inches with really no run-off at all. The soil was already filled with water for all normal depths of root penetration. Soil samples on milo plots during the week show that the surface six feet is completely filled on all cropped plots, and that the fallowed plot is mud to a depth of 6 feet. Winter wheat sampling last week showed the same results.

Work during the week has been restricted to the harvesting of a few milo plots and the completion of seed head removal. At the beginning of the week milo heads were starting to brown, moisture discolor. With the exception of some of the red kafirs nearly all heads are now discolored. The injury to heads of the standing stalks ranges from this discoloration through all the stages of molding, rotting, and sprouting. Some of the heads show considerable sprouting of the grain, even where the heads and stalks are erect. The harvested heads have been moved in the headed baskets to keep them from spoiling. Seed heads which are tied loosely together and hung up are also showing some spoilage. A stove has been set up to facilitate drying of these seed heads.

No stover, except corn, has been harvested. Shocks of grain sorghums on adjacent farms show even worse damage from the rains than is shown by the standing stalks. It has been too wet all week to bind sorghums. There has really been no beneficial drying by sun or wind during the week.

Leaves on trees are still green, except for the green ash and American elm which show some tendency to change color and fall. The low temperature for the fall has been 36°.

Maximum temperature, 76°; minimum, 45°; precipitation, 3.04 inches. Total precipitation for October is now 4.60 inches, and the yearly total is now 39.69 inches. The 1941 precipitation to date is more than three times the average of the preceding nine years.

BIG SPRING:

Rains falling on three days during the past week again cut field work to about half time. A total totaling 1.64 inches was received the night of October 24 and it is still raining at this writing. The whole week has been damp and cloudy so that fields dried out slowly. Many farmers living in counties north of here are reporting milo sprouting on the stalk. In this immediate vicinity there has been enough dry weather and sunshine to prevent damage of this nature. Second growth sorghums are making rapid growth, in many places new growth is taller than the shocks remaining in the fields.

Station work has consisted mainly of picking cotton, harvesting late date sorghums, preparing wheat plots for planting, heading a few milo plots, and overhauling the thresher.

Station visitors included J. M. Jones of the Texas Experiment Station.

Maximum temperature, 83°; minimum, 57°; precipitation, 1.71 inches.

LAWTON:

This was another week of wet weather with flood conditions prevailing in many parts of the State. Local precipitation recorded on six dates amounted to only 0.77 inch, a mere fraction of the amount received in most places.

In general the damage to highways, farm roads and late cotton and sorghums has been very heavy. The second growth of sorghums that were harvested earlier in the fall is heading quite generally. A heavy growth of volunteer grains such as wheat, oats and barley would provide abundant grazing if the fields were dry enough to use for such purposes. Such grazing exceeds the livestock available.

Small grain seeding on the station was completed on the 24th, the only date since the 14th that such work could be done. This last seeding was followed by 0.67 inch precipitation on the 25th.

Temperatures have been very mild, the maxima ranging from 67° to [illegible]° and the minima from 57° to 68°; the wind velocity has been below average

WOODWARD:

Slightly over 5 inches of rain occurring within 48 hours filled the station lake and caused the water to run over the spillway 10 to 12 inches deep. Precipitation has been recorded in amounts from a trace to 2.85 inches on each of the last 11 days and on 23 of the last 30 days.

Planting of the small grain nursery was completed October 20, and in most cases good stands are emerging. Heavy rains resulted in some washing and loss of stands on a few plots and of some nursery material. The last of the kafir plots have been headed and fodder bound. Grain sorghum seed, both that which has been harvested and that still in the field, is badly discolored. The fourth picking of cotton was made on rotation 124.

Late vegetables and jujubes have been harvested. Due to the extremely wet weather some of the jujubes spoiled on the trees; this is rather unusual. Considerable tree, shrub, and other seed has been harvested and cleaned. Some greenwood cuttings have been made for propagation in the greenhouse.

Some sand and gravel have been hauled and one-fourth of the concrete floor on the new seed storage shed has been run. Some pocket gophers have been trapped. Irrigation pumps and lines have been drained.

Maximum temperature, 77°; minimum, 54°; average hourly wind velocity, 4 miles, precipitation, 5.49 inches.

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NOTE:

The last weekly report for the year will be for the week ending November 1. November-March reports will be monthly.